

varying one or more parameters of said estimated interference signal, to determine a respective value of each said parameter to minimise the level of said components in said uplink signal.

17. (New) A method according to claim 16, wherein said parameter comprises signal amplitude.

18. (New) A method according to claim 16, wherein said parameter comprises delay.

19. (New) A method according to claim 16, wherein said parameter comprises Doppler shift.

20. (New) A method according to claim 16, wherein the step of processing comprises subtracting said estimated interference signal.

21. (New) A method of mitigating interference between a first signal and a second signal in a user uplink signal received at a satellite, comprising the steps of:

providing signal estimate data corresponding to at least said first interference signal;

generating therefrom an estimated first signal;

processing a signal derived from said uplink signal in accordance with said estimated first signal to reduce the magnitude of said first signal therein;

providing signal estimate data corresponding to at least said second interference signal;

generating therefrom an estimated second signal; and

further processing said processed signal in accordance with said estimated second signal.

22. (New) A method according to claim 21, in which said step of further processing comprises deriving at least one parameter of said second signal for subsequent use.

23. (New) A method according to claim 22, wherein said step of deriving comprises demodulating said second signal.

24. (New) A method according to claim 23, further comprising remodulating said second signal and processing a signal derived from said uplink signal in accordance with said remodulated second signal to reduce the magnitude of said second signal therein.

25. (New) A method according to claim 22, in which said subsequent use comprises processing a signal derived from said uplink signal in accordance with said parameter to reduce the magnitude of said second signal therein.

26. (New) A method according to claim 21, wherein the step of processing comprises subtracting said estimated interference signal.

27. (New) A satellite communications system comprising at least one satellite in orbit about the Earth, and being for receiving a user uplink signal from a user terminal adjacent the Earth, in the presence of co-channel interference from at least one interference source adjacent the Earth, further comprising an interference mitigation component, wherein said interference mitigation component comprises an interference store for storing interference data characterising at least a first signal, and a component configured to iteratively form an interference estimate from said data in accordance with at least one variable parameter, for locating a value thereof to maximise the mitigation of said uplink signal, and for processing said uplink signal in accordance with said value and said interference data.

28. (New) A satellite communications system comprising at least one satellite in orbit about the Earth, and being for receiving a user uplink signal from a user terminal adjacent the Earth, in the presence of co-channel interference from at least one interference source adjacent the Earth, further comprising an interference mitigation component configured to perform the process of claim 21.

29. (New) The system of claim 27, further comprising an Earth station, in which said satellite is a repeater and is arranged to transmit the content of said user uplink signal on a feeder downlink signal to said Earth station, and in which said interference mitigation component is on Earth and in communication with said Earth station.

30. (New) The system of claim 28, further comprising an Earth station, in which said satellite is a repeater and is arranged to transmit the content of said user uplink signal on a feeder downlink signal to said Earth station, and in which said interference mitigation component is on Earth and in communication with said Earth station.

31. (New) Interference mitigation apparatus for the system of claim 27.

32. (New) Interference mitigation apparatus for the system of claim 28.

33. (New) Interference mitigation apparatus configured to perform the process of claim 16.

34. (New) Interference mitigation apparatus configured to perform the process of Claim 21.

35. (New) Apparatus for mitigating interference in a user uplink signal received at a satellite from a terrestrial user terminal comprising:

a generating component configured to generate an estimated interference signal in accordance with one or more parameters;

a processing component configured to process a signal derived from said uplink signal in accordance with said estimated interference signal to reduce the magnitude of corresponding components within said uplink signal; and

a varying component configured to vary one or more parameters of said estimated interference signal, to determine a respective value of each said parameter to minimise the level of said components in said uplink signal.

36. (New) Apparatus according to Claim 35, wherein said parameter comprises signal amplitude.

37. (New) Apparatus according to Claim 35, wherein said parameter comprises delay.
38. (New) Apparatus according to Claim 35, wherein said parameter comprises Doppler shift.
39. (New) Apparatus according to Claim 35, wherein said processing component is configured to subtract said estimated interference signal.
40. (New) Apparatus for mitigating interference between a first signal and a second signal in a user uplink signal received at a satellite, comprising:

a first component configured to provide signal estimate data corresponding to at least said first interference signal;

a second component configured to generate therefrom an estimated first signal;

a third component configured to process a signal derived from said uplink signal in accordance with said estimated first signal to reduce the magnitude of said first signal therein;

a fourth component configured to provide signal estimate data corresponding to at least said second interference signal;

a fifth component configured to generate therefrom an estimated second signal; and

a sixth component configured to process said processed signal in accordance with said estimated second signal.

41. (New) Apparatus according to Claim 40, wherein said sixth component is configured to derive at least one parameter of said second signal for subsequent use.
42. (New) Apparatus according to claim 41, wherein said sixth component is configured to derive said at least one parameter of said second signal by demodulating said second signal.
43. (New) Apparatus according to claim 42, further comprising a seventh component configured to remodulate said second signal and to process a signal derived from said uplink signal in